



Federaal Agentschap  
voor de Veiligheid  
van de Voedselketen

# Infectious Bovine Rhinotracheitis Belgium

Standing Committee on Plants, Animals, Food and Feed

11 – 12 September 2014



# Timeline

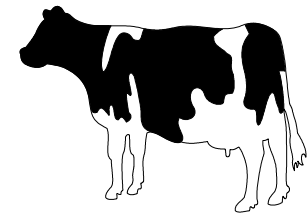
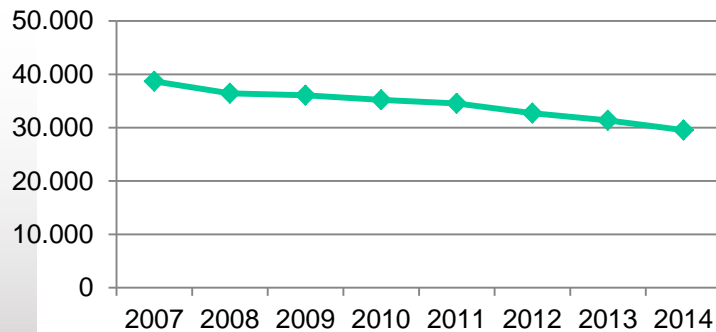
- 1997-1998 study on herds without any IBR vaccination
  - Between-herd gE seroprevalence: **67%**
  - Within-herd gE seroprevalence: **35.9%**
- Legislation:
  - Royal Decree of 8 august 1997 : eradication program on a voluntary base
    - Only markervaccins authorised
    - Voluntary
  - Royal Decree of 22 November 2006 : eradication program based on vaccination and serological screening and qualification of herds
    - Only markervaccins authorised
    - Voluntary : 2007 – 2012
    - Compulsory : since 1 January 2012



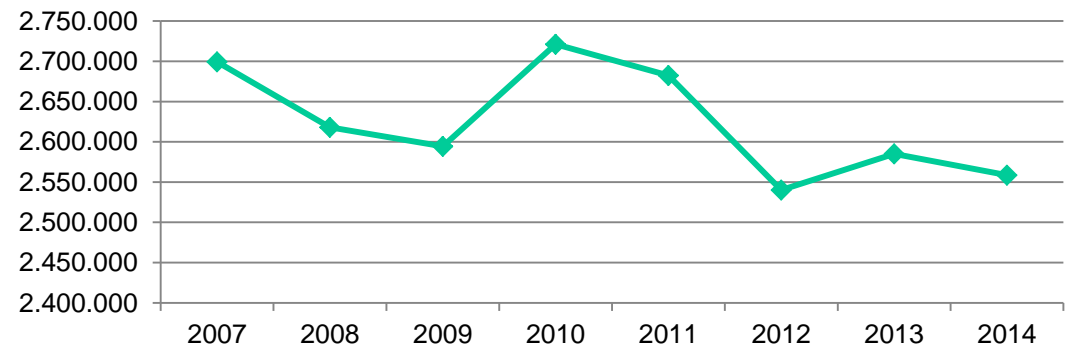
# Number of bovine herds and animals in Belgium

	2007	2008	2009	2010	2011	2012	2013	2014
herds	38.690	36.423	36.064	35.217	34.540	32.706	31.363	29.534
animals	2.699.258	2.618.040	2.594.358	2.721.130	2.682.370	2.540.157	2.585.003	2.558.622

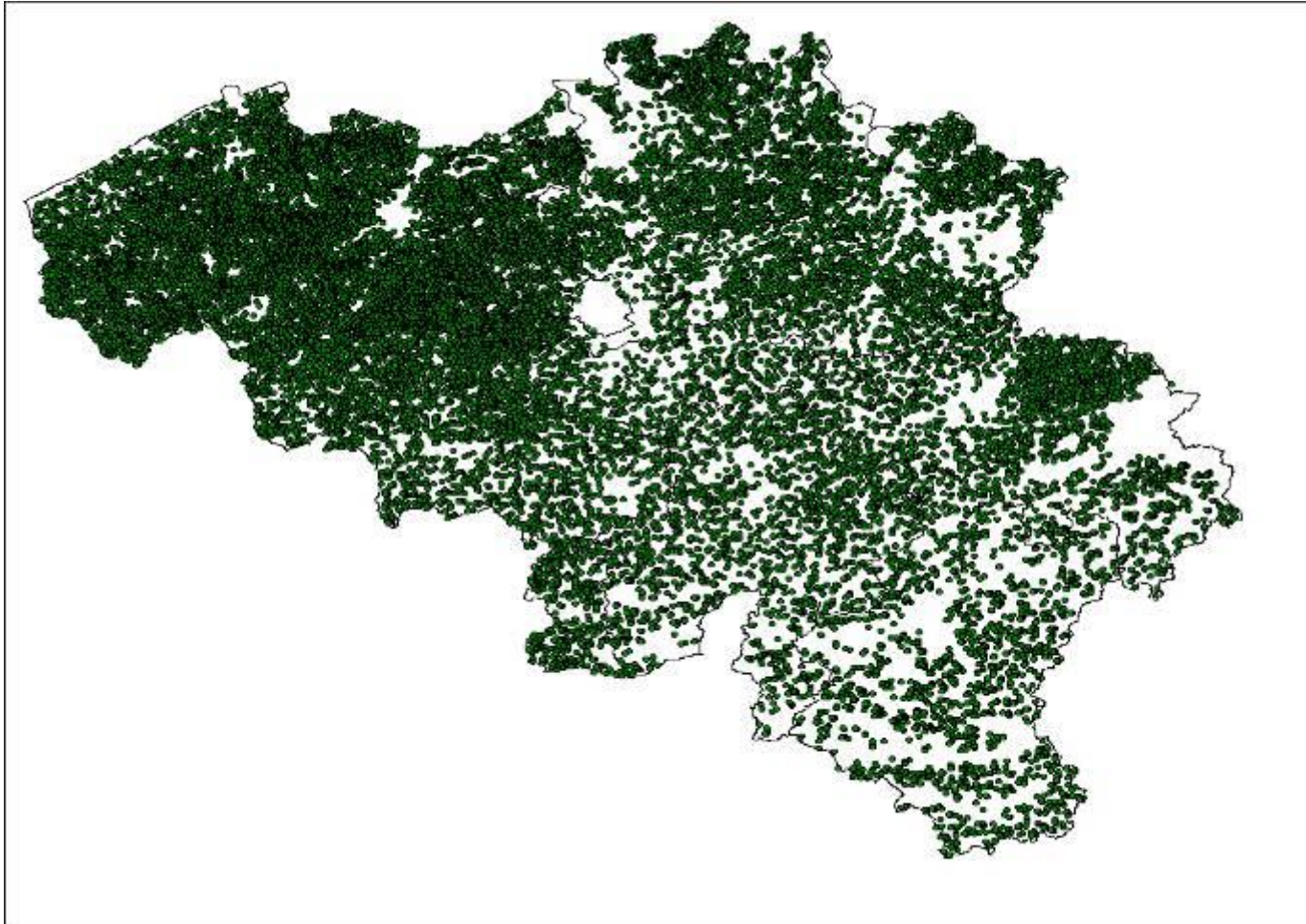
**herds**



**animals**



# Distribution of bovine holdings in Belgium



# Status of herds

- I4 : 'officially' free status, all animals gB seronegative, vaccination prohibited
- I3 : free status, all animals gE seronegative, vaccination authorised
- I2 : non free status, vaccination mandatory
  - Primovaccination
  - Hyperimmunisation
- I1 : unknown IBR status
- Herds with veal calves (281) not in the programme yet



# IBR qualification by serological screening

- I4 : two serological tests on all animals older than 12 months of age with an interval of at least 4 months and at maximum 8 months with all results negative for gB
- I3 : two serological tests on all animals older than 12 months of age with an interval of at least 4 months and at maximum 8 months with all results negative for gE



# IBR qualification by vaccination

- I2 : mandatory vaccination
  - Primo-vaccination of all young (3 to 10 months of age) Or purchased animals (> 3 months of age)
  - Hyperimmunisation : half yearly revaccination (interval of 1 – 8 months)
- I2d (derogation) : mandatory vaccination of a restricted number of gE-positive animals after serological analysis of all animals and obligation to remove the gE-positive animals



# Maintenance of I4 and I3

- Preserving a I4-status is based on a yearly at random screening with an interval of maximum 13 months of bovine animals older than 12 months of age (max. 21). All tested bovine animals must show a gB negative result.
- Preserving a I3-status is based on a yearly at random screening with an interval of maximum 13 months of bovine animals older than 12 months of age (max. 26). All tested bovine animals must show a gE negative result.





# Maintenance: at random selection: animal prevalence of 15%, CI 95%

Sampling table		
	<b>I3 status</b>	<b>I4 status</b>
Total number of bovine animals in the herd	gE-ELISA	gB-ELISA
≥ 200	26	21
70 - 199	25	19
50 - 69	23	18
30 - 49	22	17
20 - 29	18	16
17 - 19	all	16
1 - 16	all	all



# Animal purchase policy

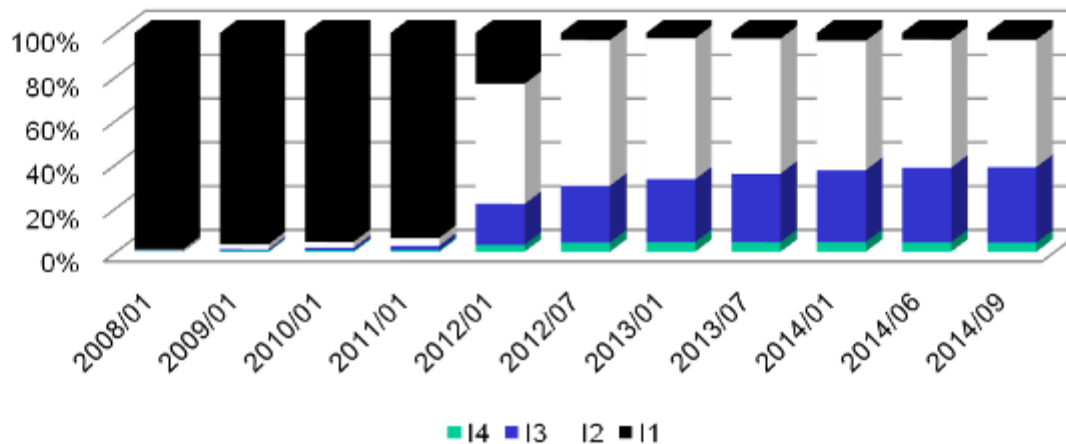
herd of origin	herd of destination	1st blood sample	test	favourable result	2nd blood sample	test	favourable result
I2 – I2d	I2d – I3	≤ 5d after purchase	gE ELISA	negative	≥28d and ≤40d after purchase	gE ELISA	negative
	I4	≤ 5d after purchase	gB ELISA	negative	≥28d and ≤40d after purchase	gB ELISA	negative
I3 – I4	I2d – I3	≤ 5d after purchase	gE ELISA	negative	Not applicable		
	I4	≤ 5d after purchase	gB ELISA	negative	Not applicable		
I2d – I3 – I4	I2	No mandatory purchasing test, but a mandatory primovaccination					
I1	-	Commercialization of I1 bovine animals is forbidden, only direct transport to the slaughterhouse is possible					



# Evolution of herds qualification : 2008 - 2014

herds	2008/01	2009/01	2010/01	2011/01	2012/01	2012/07	2013/01	2013/07	2014/01	2014/06	2014/09
I4	56	156	227	272	937	1.271	1.252	1.217	1.182	1.142	1.123
I3	74	303	469	729	5.416	7.619	7.937	8.496	8.588	8.981	9.067
I2	294	786	970	1.227	15.930	19.605	17.840	16.733	15.441	15.412	15.274
I1	38.266	35.178	34.398	32.989	6.779	990	700	742	970	807	861
<b>total</b>	<b>38.690</b>	<b>36.423</b>	<b>36.064</b>	<b>35.217</b>	<b>29.062</b>	<b>29.485</b>	<b>27.729</b>	<b>27.188</b>	<b>26.181</b>	<b>26.342</b>	<b>26.325</b>
<b>% of I4</b>	0,14%	0,43%	0,63%	0,77%	3,22%	4,31%	4,52%	4,48%	4,51%	4,34%	4,27%
<b>% of I3</b>	0,19%	0,83%	1,30%	2,07%	18,64%	25,84%	28,62%	31,25%	32,80%	34,09%	34,44%
<b>% of I2</b>	0,76%	2,16%	2,69%	3,48%	54,81%	66,49%	64,34%	61,55%	58,98%	58,51%	58,02%
<b>% of qualified herds</b>	<b>1,10%</b>	<b>3,42%</b>	<b>4,62%</b>	<b>6,33%</b>	<b>76,67%</b>	<b>96,64%</b>	<b>97,48%</b>	<b>97,27%</b>	<b>96,30%</b>	<b>96,94%</b>	<b>96,73%</b>

## Evolution IBR herds qualification



# Prevalence

- Annual cross sectional study during winter period (gE ELISA)
- At random selection of 450 herds, 40 animals sampled per herd
  - Age category 6 – 12 months: 10 bovines (or all animals if less present)
  - Age category 12 – 24 months: 10 bovines (or all animals if less present)
  - Age category more than 24 months: 20 bovines (or all animals if less present)

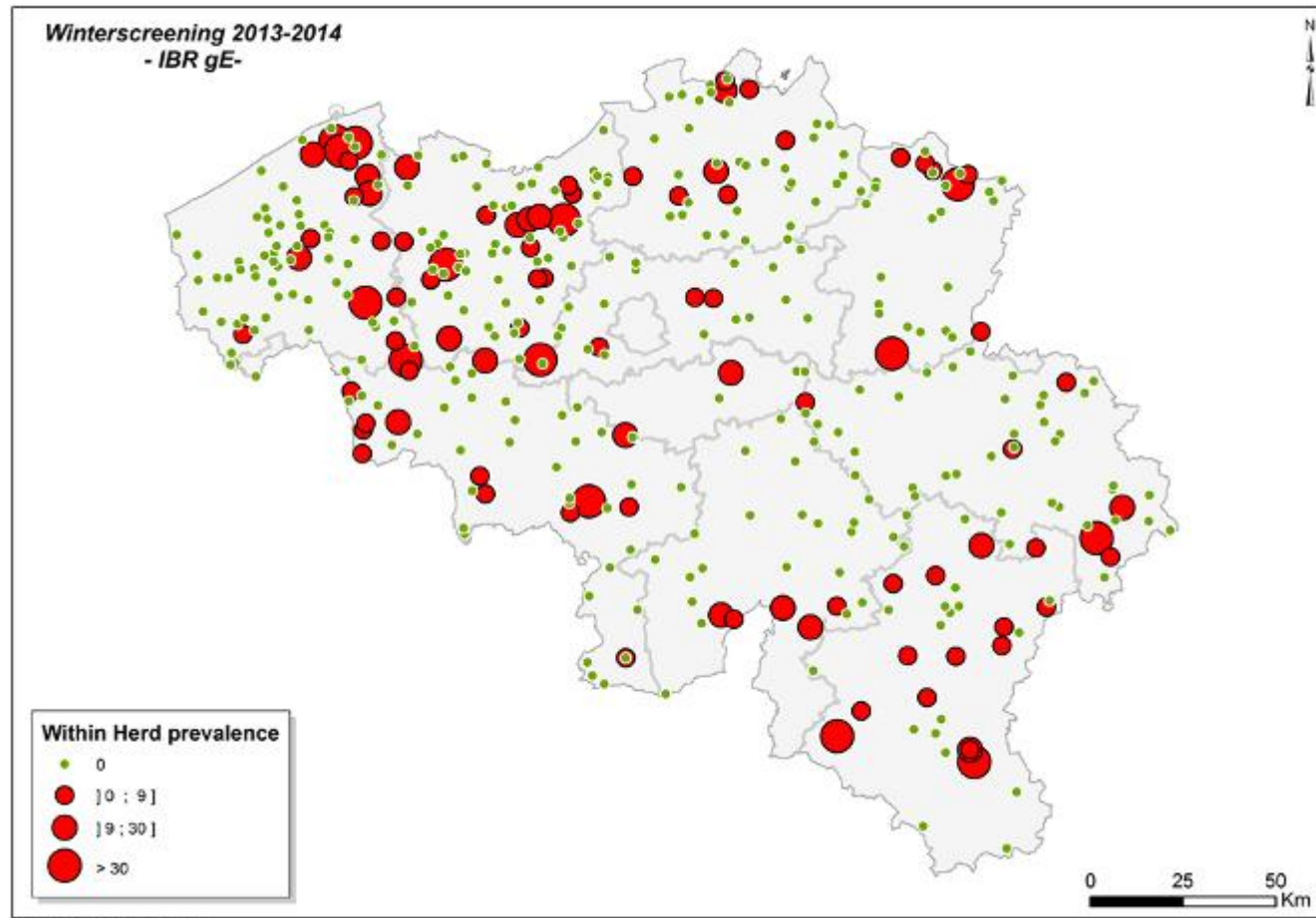


# Results Winterscreening 2014

- Overall within-herd seroprevalence: **8.74%**  
(C.I. 95%: 6.08 – 12.41)
- Overall between-herd seroprevalence: **23.7%**  
(C.I. 95%: 19.5 – 27.9)



# Within-herd seroprevalence winterscreening 2014

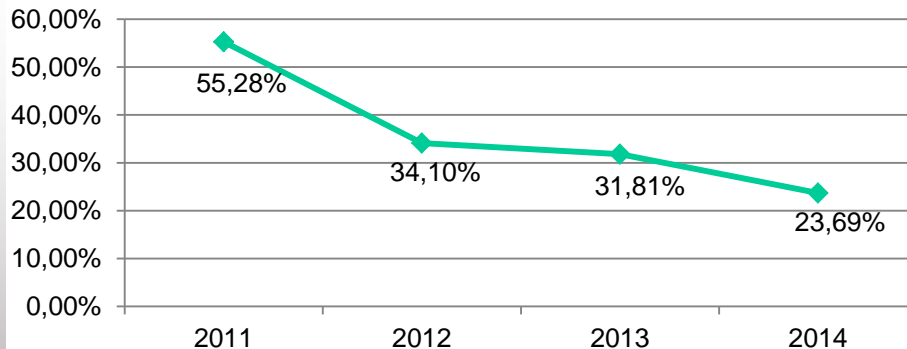


Sources: Arma, DGZ, AFSCA, Coda-Cervia

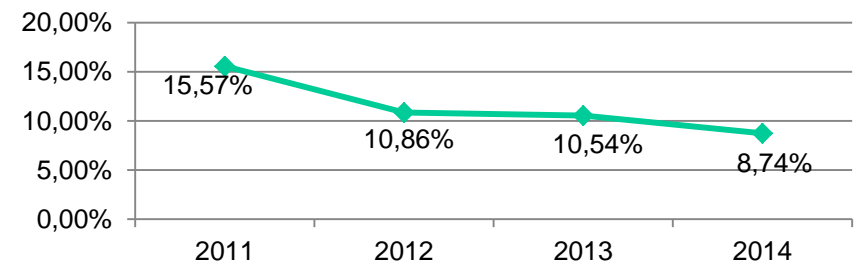
# Results Winterscreening 2011 - 2014

Winterscreening	2011	2012	2013	2014
Between-herd sp	55,28%	34,10%	31,81%	23,69%
Within-herd sp	15,57%	10,86%	10,54%	8,74%

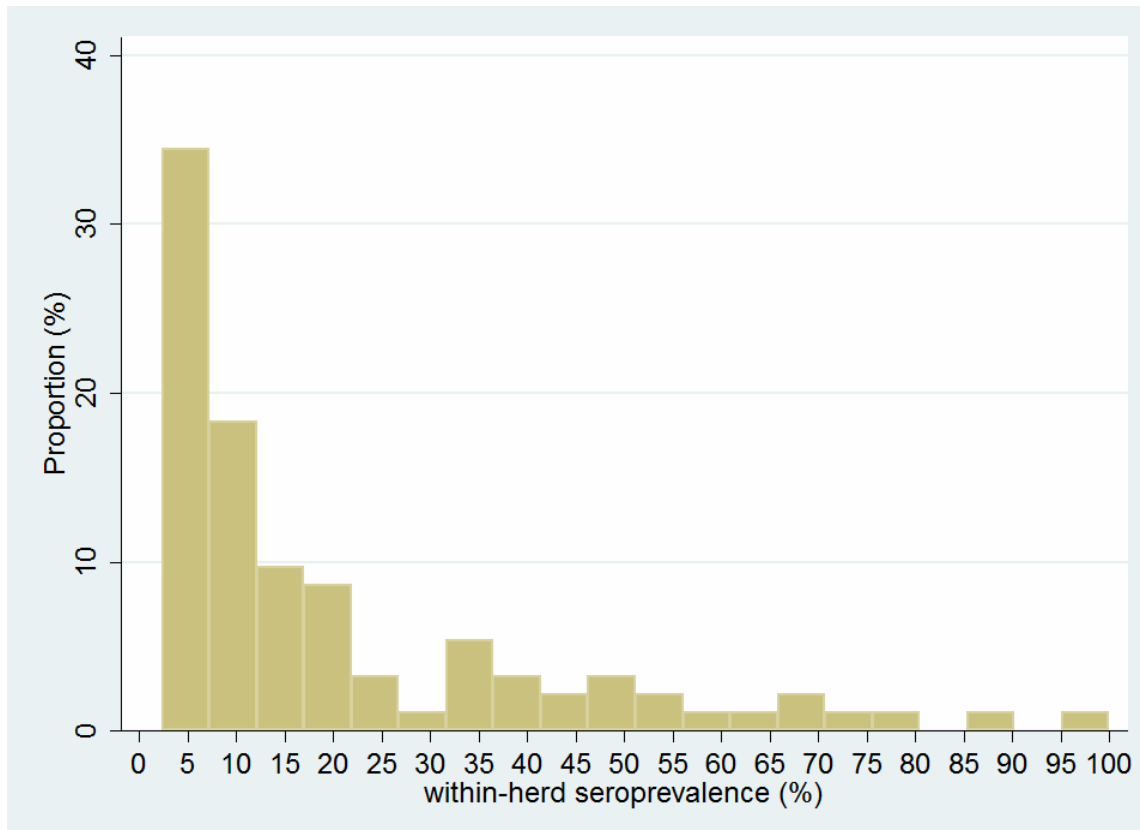
**Winterscreening:  
between-herd sp**



**Winterscreening:  
within-herd sp**



# Distribution of the within-herd seroprevalence among positive herds (n = 95) during winterscreening 2014 : 44% of herds with sp < 10%





# Distribution of gE within-herd seroprevalence stratified by age category (2012 – 2014)

Age category	WINTERSCREENING		
	2012	2013	2014
6 - 12 months	4,05% (95%CI : 2,12 - 7,6)	3,71% (95%CI : 0,88 - 6,53)	3,34% (95%CI : 1,76 - 6,26)
12 - 24 months	5,54% (95%CI : 3,43 - 8,85)	3,61% (95%CI : 1,51 - 5,72)	5,4% (95%CI : 2,9 - 9,92)
> 24 months	17,1% (95%CI : 13,24 - 21,79)	16,91% (95%CI : 13,22 - 20,6)	12,68% (95%CI : 9,11 - 17,38)



**Thanks for your attention!**

**Any questions?**

